PEC UPDATE

VOLUME 96-08 **17 MAY 1996**

DOD PharmacoEconomic Center, 2107 17th Street, Bldg 4197, Ft Sam Houston, TX 78234-5036
DSN: 471-4311; Commercial: (210) 221-4311: FAX Extension: 4314
E-Mail: hscphaec@smtplink.hcssa.amedd.army.mil HomePage:
http://www.ha.osd.mil/hppec2.html#Start

ISSUE HIGHLIGHTS

Remember Memorial Day,

In the Literature.....

The Managed Care Outcomes Project

A longitudinal, prospective study recently published in the *American Journal of Managed Care* (1996;2:253-64) suggests that restrictive formularies used to contain costs may actually result in increased overall health care costs. The Managed Care Outcomes Project was funded by the six participating HMOs and the National Pharmaceutical Council to examine the effects of cost- containment strategies involving pharmaceuticals on severity-adjusted patient outcomes.

The study analyzed data from approximately 13,000 patients with one or more of five diseases typically managed on an outpatient basis: arthritis, asthma, epigastric pain/ulcer, hypertension, and otitis media. Six health maintenance organizations (HMOs) with various levels of cost-control measures were evaluated over a 1-year period. Individual patient data were examined for the use of multiple health care services, such as office visits, emergency room visits, hospitalization, and prescription drug use. Patients were classified by severity of illness, so a patient with mild asthma was compared to other patients with the same degree of illness both at the same HMO and other HMOs in the study. Cost-containment practices evaluated in the study included second-opinion requirements, strictness of the site gatekeeper, intensity of case management, drug and visit copayments, extent of use of generic drugs, and levels of restrictions on formularies.

The study found that generic or multisource drug use was associated with higher total drug count, total drug cost, disease-group drug count, and disease-group drug cost for all five diseases evaluated. Additionally, restrictive drug formularies were associated with greater utilization of health care services, such as emergency room and physician visits. The average increase in utilization between HMOs with no formulary limitations and HMOs with the most

limiting formularies was 160% (±78%) for prescription count, 83% (±29%) for visit count, 161% (±76%) for drug costs, and 184% (±88%) for disease-group drug costs.

The Academy of Managed Care Pharmacy (AMCP) criticized the study for failing to find any cause-and-effect relationship between formulary restrictions and rates of utilization of services, relying instead only on statistical correlations. The study also failed to link utilization with patient disease states, address quality of care, look at the efficacy of drugs included in the formularies, and address the issue of patient outcomes. Additionally, pertinent variables, such as physician prescribing patterns, Pharmacy and Therapeutics Committees' actions, frequency of formulary changes, and pharmacy management techniques in the HMO, are not taken into account. According to AMCP, the greatest flaw in the study is the failure to evaluate drug costs and drug and medical utilization patterns at a baseline before the formularies were put in place.

As noted by AMCP, formularies do not work in isolation, but are part of a larger coordinated care system. To be effective, formularies work in conjunction with other pharmaceutical care techniques, such as drug use evaluation, patient compliance programs, and treatment guidelines. These techniques help minimize inappropriate prescribing and drug utilization, which often lead to poor patient outcomes and higher medical costs.

Compiled from:

- Study finds restrictive formularies may increase healthcare spending. *PRNewswire* Thursday, March 21, 1996.
- Controversial study questions effectiveness of HMO formularies. *Managed Pharmaceutical Report* 1996;3(4):1-2.
- Greater use of multisource drugs associated with higher yearly drug costs; NPC-funded managed care outcomes study finds home in managed care journal. *F-D-C Reports* 1996;58(13):8-9.
- Academy of Managed Care Pharmacy disputes conclusions of formulary study. *AMCP News Release* March 20, 1996.
- Barnett AA. HMO formularies lead to higher care costs. *Lancet* 1996;347:894.
- HMO pharmacy cost-management techniques questioned by NPC outcomes study; Intermountain favors "clinical practice improvement" programs — HMO's Horn. *F-D-C Reports* 1994;56(37):5-6.

New PEC Staff Member

The PEC would like to welcome its newest staff member, Eugene Moore, Pharm.D. Dr. Moore will serve as Coordinator of the Army Ambulatory Care Pharmacist (ACP) Program. Dr. Moore comes to the PEC with extensive experience in the ambulatory care setting having served as an ACP at Winn Army Community Hospital, Fort Stewart, Georgia from July 1993 to June 1995, and most recently as Supervisory Pharmacist at Veterans Affairs Western New York Health Care System, Batavia Division. Dr. Moore can be reached at the PEC at (210) 221-5694 or DSN 471-5694.

CDC Strategic Goals to Prevent Antimicrobial Resistance

The emergence of antimicrobial-resistant organisms is an increasing problem in the community and hospital setting. Vancomycin resistance had not been reported by U.S. hospitals until 1989, but by 1994, almost 14% of hospital-acquired enterococci reported by intensive care units to the Centers for Disease Control and Prevention (CDC) were resistant.[1] *Streptococcus pneumoniae* has become increasingly resistant to penicillin and extended-spectrum cephalosporins.[2] Additionally, gram-negative organisms, such as *Klebsiella pneumoniae* and *Pseudomonas* species, have become increasingly resistant to ceftazidime, aminoglycosides, and quinolones.[1,2]

In 1995, the CDC issued extensive guidelines on preventing vancomycin-resistant enterococci.[3] (For additional information on these guidelines, see *PEC Update* 95-09, 16 June 1995). However, with the growing problem of antimicrobial resistance in mind, the National Foundation for Infectious Diseases and the Hospital Infections Program of the National Center for Infectious Diseases, CDC, sponsored a workshop to identify specific strategies that, if successfully implemented by hospitals, would be likely to reduce antimicrobial resistance. The strategic goals and related process and outcome measures were developed by a consensus of a multidisciplinary group of experts in infectious diseases, hospital epidemiology and infection control, clinical microbiology, clinical practice, pharmacy, administration, and other experts. Representatives from the pharmaceutical industry, the Food and Drug Administration, and the Joint Commission on Accreditation of Healthcare Organizations also attended.

The resulting strategies are not intended to be exhaustive or definitive. Hospitals should consider these recommendations and other consensus statements to adopt approaches that best suit their local needs. The 10 strategic goals for optimizing antimicrobial use and detecting, reporting, and preventing transmission of resistant organisms are included in the Table below. For additional detail on the suggested outcome and process measures described in the consensus statement, the reader is referred to the article by Goldman and colleagues.[1]

References:

1. Goldman DA, Weinstein RA, Wenzel RP, Tablan OC, Duma RJ, Gaynes RP, Schlosser J, et al. Strategies to prevent and control the emergence and spread of antimicrobial-resistant microorganisms in hospitals: a challenge to hospital leadership. *JAMA* 1996;275:234-40.
2. Tenover FC, Hughes JM. The challenges of emerging infectious diseases: development and spread of multiply-resistant bacterial pathogens. *JAMA* 1996;275:300-4.
3. Centers for Disease Control and Prevention. Recommendations for preventing the spread of vancomycin-resistance. *Infect Control Hosp Epidemiol* 1995;16:105-13.

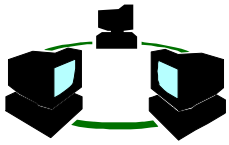
Table—Strategic Goals to Prevent and Control Antimicrobial Resistance[1]

Strategies to optimize the use of antimicrobials:
1. Optimize antimicrobial prophylaxis for operative procedures.
2. Optimize the choice and duration of empiric therapy.
3. Improve antimicrobial prescribing by educational and administrative means.
4. Monitor and provide feedback on the occurrence and impact of antibiotic resistance.
5. Define and implement healthcare delivery system guidelines for important types of antimicrobial use.
Strategies for detecting, reporting, and preventing transmission of antimicrobial-resistant organisms:
1. Develop a system to recognize and report trends in antimicrobial resistance within the hospital.
2. Develop a system to rapidly detect and report resistant microorganisms in individual patients and ensure a rapid response by caregivers.
3. Increase adherence to basic infection control policies and procedures.
4. Incorporate the detection, prevention, and control of antimicrobial resistance into institutional strategic goals and provide required resources.
5. Develop a plan to identify, transfer, discharge, and readmit patients colonized with specific antimicrobial-resistant pathogens. A list of problematic pathogens should be specified, such as methicillin-resistant *Staphylococcus aureus*, vancomycin-resistant and high-level penicillin-resistant enterococci, and gram-negative bacilli resistant to third-generation cephalosporins.

Dissemination of the PEC Update within MTFs

The PharmacoEconomic Center (PEC) mails or faxes the PEC Update directly to all Air Force, Army, and Navy medical treatment facility commanders and chiefs of pharmacy. Additionally, many individual health care professionals are on the PEC mailing list. However, we cannot distribute the PEC Update to every health care professional in the Department of Defense without the help of you, our current readers. We would encourage you to make copies of the PEC Update to distribute to your colleagues and/or staff members. For colleagues and/or staff members who have Internet access, the PEC Update can be downloaded from the PharmacoEconomic Center's Home Page on the World Wide Web at: **http://www.ha.osd.mil/hppec2.html#Start**

Literature Searching on the Internet



The National Library of Medicine (NLM) is moving its Grateful Med electronic retrieval service to the Internet. Grateful Med provides assisted literature searching in MEDLINE and other online databases of the NLM using the Unified Medical Language System Metathesaurus. The Internet Grateful Med service does not require users to have any special software, and will be priced per character shipped. A retrieval of hundreds of citations downloaded in long form with abstracts will cost more than a search with less retrieval and a few short records. A typical physician's search is estimated to cost less than $2.00. Would-be users must sign up for the service and receive a user-ID code and a password. You can receive further information on Internet Grateful Med through their Web site at: < http://igm.nlm.nih.gov/ >, or call 1-800-638-8480.

HMO Pharmacy Survey Report

According to the *CibaGeneva Pharmacy Benefits Report*, more than 90% of all people enrolled in HMOs have pharmacy benefit coverage. A 1994 survey of 71 HMOs found that nearly 48% of HMOs have closed formularies, with the average HMO listing more than 850 products on the formulary. Generic substitution was used in 87.3% of HMOs as a cost-containment measure. Approximately 83% of HMOs used drug use evaluation/drug utilization review, and 81.9% employed prior authorization for cost containment. Only 50.7% of HMOs use step-care protocols and only 33.8% of HMOs use therapeutic interchange as cost containment measures.

Excerpted from:
News Capsules. Closed formularies, DUEs, generic substitutions popular strategies among HMOs, survey reports. *Formulary* 1996;31:257.

New System to Notify Pharmacists about Drug Recalls

The National Notification Center (NNC) was recently launched to provide information to pharmacists about drug recalls, drug interactions or adverse reactions, drug shortages, withdrawals, and cases of counterfeiting and fraud. Using a high-capacity voice-messaging system, the NNC automatically dials 66,000 pharmacies in its data bank. Pharmacists can verify receipt of the message and can request a fax copy of the notice. In addition to community and hospital pharmacies, the NNC notifies pharmacies in clinics, home health care, home infusion companies, federal government installations, mail-order operations, methadone clinics, nursing homes, and student health services. This notification service is available at no cost to pharmacies.

Excerpted from:
Ukens C. Robophone system alerts R.Ph.s to drug recalls. *Drug Topics* 1996;140(6):24, 29.